



**Badger Meter**

## JEFFERSON PARISH PURCHASING DEPARTMENT

Invitation to Bid  
Bid # 5000142745  
Purchase of Meters for Jefferson Parish Department  
Public Works, Eastbank  
Opening Day: July 11, 2023, at 11:00 a.m. CST



4545 W Brown Deer Road  
PO Box 245036  
Milwaukee, Wisconsin 53224-9536  
414-355-0400 | 800-876-3837  
[www.badgermeter.com](http://www.badgermeter.com)

July 7, 2023

Ms. Jill Truelove  
Buyer  
Jefferson Parish Purchasing Department  
200 Derbigny Street  
General Government Building, Suite 4400  
Gretna, LA 70053

**RE: Purchase of Meters for Jefferson Parish Department Public Works,  
Eastbank**

*Opening Date: July 11, 2023, at 11:00 a.m. CST*

Dear Ms. Truelove:

Accompanying this letter includes the response from Badger Meter® to the Jefferson Parish Purchasing Department's (the Parish) Purchase of Meters Invitation to Bid (ITB) 50-00142745, requesting a supply of new meters. Badger Meter appreciates the opportunity to support the Parish's objectives set forth with the release of this ITB. At Badger Meter, we take our customers' needs seriously and look forward to demonstrating to the Parish what it means to partner with us. The commitment of Badger Meter is to provide the Parish high-quality products that are readily available and offer extraordinary value. Our people, operations, and products have allowed us to deliver on this commitment consistently, providing an exceptional customer experience and Smart Water solution for the complete water ecosystem.

Badger Meter is a market leader in water meter technology with 118+ years of experience designing, manufacturing, and supplying water meters, including over 35 million water meters installed nationwide. With over a century in the metering business, the Parish can rest assured Badger Meter is a reputable company renowned for providing the highest-quality products.

As the world navigates economic and supply chain challenges that have affected many organizations, recognize that the Parish can count on Badger Meter as a partner that has proven it can deliver on its competitive lead times. The supply chain execution demonstrated by Badger Meter shows our capability to navigate external challenges and capitalize on the current robust demand environment. We have shown great agility in this market by effectively redesigning certain product components to provide greater flexibility on supply sources. These successes differentiate Badger Meter from competitors.

For this response to the Parish's ITB, please note payment terms are net 30 days. Prices quoted in this bid, if awarded to Badger Meter, will remain firm for one-year, through July 7, 2024, if

acceptance is made within 60 days. This letter as well as the general disclosures are attached to and becomes part of Badger Meter's response.

A copy of the bid tabulation, for our records, is appreciated. Electronic results can be emailed to [proposals@badgermeter.com](mailto:proposals@badgermeter.com).

In the event you have any questions regarding this correspondence, our Proposals department can be reached by email at [proposals@badgermeter.com](mailto:proposals@badgermeter.com) or by telephone at 800-876-3837. Additionally, you may contact your Account Manager, Brent Bennett, by email at [bbennett@badgermeter.com](mailto:bbennett@badgermeter.com) or by telephone at 225-305-3079.

Sincerely,

BADGER METER, INC.



Jennifer A. Dunk  
Assistant Secretary and Proposal Lead

# GENERAL DISCLOSURES

## CONFIDENTIALITY STATEMENT

The information contained herein is to be considered confidential and proprietary to the extent allowable by law. © 2023 Badger Meter, Inc. All rights reserved.

## DISCLOSURES

Due to continuous improvements and redesign of our products and technology solutions, Badger Meter reserves the right to provide our newest product solutions as an alternative to the proposed products, provided they are in conformance with the requirements of the specifications and do not exceed the prices quoted.

We provide certification files to help you manage your meter and endpoint inventory along with the corresponding meter accuracy data. The standard method of delivery for this format is via electronic mail. Any deviations from our standard format, or any custom file formats, will be considered on a time and material basis.



4545 W Brown Deer Road  
 PO Box 245036  
 Milwaukee, Wisconsin 53224-9536  
 414-355-0400 | 800-876-3837  
 www.badgermeter.com

CERTIFICATION  
 OF SIGNATURE AUTHORITY

I certify as follows:

By Board Resolution adopted by the Board of Directors of Badger Meter, Inc. and in full force and effect as of this date:

The following *elected executive officers* are, among other things, hereby authorized to execute, amend, and cancel bids and contracts for the sale of products, distributor and representative agreements, bid bonds, surety bonds, contracts, leases and certain other legally binding documents in the ordinary course of business, in the name of Badger Meter, Inc.

Kenneth C. Bockhorst	Chairman, President and Chief Executive Officer
Robert A. Wrocklage	Senior Vice President – CFO
Lars B. Kristensen	Vice President – Global Flow Instrumentation and International Utility
Kimberly K. Stoll	Vice President – Sales and Marketing
Matthew L. Stuyvenberg	Vice President – Water Quality
William R. A. Bergum	Vice President – General Counsel & Secretary

Pursuant to the Power granted by the Board of Directors, the following *elected non-executive officers* are hereby authorized to execute, amend, and cancel bids, bid-related contracts and documents, requests for proposals and quotes, and all other bid-related documentation in the name of Badger Meter, Inc.

Jennifer A. Dunk	Assistant Secretary	Proposal Lead – Bids and Contract Administration
Wayne Dennis	Assistant Secretary	Senior Director - International Sales & Marketing & Proposal Manager – Bids and Contract Administration
Claire A. Evans	Assistant Secretary	Senior Legal Counsel
Nicholas J. Gemmill	Assistant Secretary	Proposal Lead – Bids and Contract Administration
Matthew B. Gieseke	Assistant Secretary	Milwaukee Accounting Manager
Charity D Granberry	Assistant Treasurer	Sr. Director – Utility Sales
Shauna A. Griffin	Assistant Secretary	Milwaukee Credit Manager
Benjamin E. Loomis	Assistant Secretary	Counsel II
David A. Miller	Assistant Secretary	Proposal Lead – Bids and Contract Administration
Rachel J. Meyer	Assistant Secretary	Director - Finance
Jevgeni Neufeld	Assistant Treasurer	Director - Accounting & External Reporting
Christie M. Tarantino	Assistant Treasurer	Counsel III
Kavin Tedamrongwanish	Assistant Secretary	

BY:

William R. A. Bergum,  
 Vice President - General Counsel & Secretary  
 Badger Meter, Inc.

June 13, 2023  
 Date

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# CUSTOMER BID DOCUMENTS



DATE: 6/28/2023

INVITATION TO BID  
THIS IS NOT AN ORDER

Page: 5

BID NO.: 50-00142745

**JEFFERSON PARISH**  
PURCHASING DEPARTMENT  
P.O. BOX 9  
GRETNA, LA. 70054-0009  
504-364-2678

VENDOR: 27118 BLANK BID COPY VENDOR

BUYER: JTRUELOVE

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Agency warehouse or jobsite, anywhere within the Parish as designated by the Purchasing Department.

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH is expecting all products to be new and all work to be done in workman-like manner, according to standard practices. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

<b>DELIVERY: FOB JEFFERSON PARISH</b>	90 Business Days for Disc Meters and 45 days for Turbo Meters
INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES	_____
INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK	N/A
INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK	N/A

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form by placing the addendum number as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: \_\_\_\_\_  
NUMBER: \_\_\_\_\_  
NUMBER: \_\_\_\_\_  
NUMBER: \_\_\_\_\_

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) N/A; Supply Only

<b>*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***</b>	
FIRM NAME: <u>Badger Meter, Inc.</u>	
SIGNATURE: (Must be signed here) <i>Jennifer Dunk</i>	TITLE: <u>Assistant Secretary and Proposal Lead</u>
PRINT OR TYPE NAME: <u>Jennifer A. Dunk</u>	
ADDRESS: <u>4545 W. Brown Deer Road</u>	
CITY, STATE: <u>Milwaukee, WI</u>	ZIP: <u>53223</u>
TELEPHONE: <u>(800)876-3837</u>	FAX: <u>(414)371-5981</u>
EMAIL ADDRESS: <u>proposals@badgermeter.com</u>	

TOTAL PRICE OF ALL BID ITEMS: \$ 36,487.20

## INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00142745

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	120.00	EA	<p>Purchase of Meters for Jefferson Parish Department of Public Works, Eastbank</p> <p>0010 METER, 1 IN, NO LEAD BRONZE HOUSING SHROUD AND LID, POSITIVE DISPLACEMENT,  70 GPM, S/S DISC SPINDLES, S/S TRIM, WITH ITRON CONNECTOR, BADGER #RCDL M70,  SKU # 00-0382510  ORDER #MO23-20841322</p>	\$ 221.67	\$ 26,600.40
2	12.00	EA	<p>0020 METER, 2 INCH, TURBO, NO LEAD BRONZE HOUSING, SHROUD AND LID, ELLIPTICAL FLANGES, 200 GPM, GALLON MEASUREMENT, DIRECT READ, BADGER #RCDL T-200. USED FOR FLOATER METERS ONLY  SKU # 00-0382770  DELIVER TO:  JEFFERSON PARISH EASTBANK WAREHOUSE 4901 JEFFERSON HIGHWAY JEFFERSON, LA 70121 MR. ROBERT FORTENBERRY</p>	\$ 823.90	\$ 9,886.80

# PRODUCT DATA SHEETS





**Badger Meter**

## Recordall® Disc Meters

Lead-Free Bronze Alloy, Sizes 5/8, 5/8 x 3/4, 3/4 & 1 inch  
NSF/ANSI Standards 61 and 372 Certified



**Model 25**—5/8 in., 5/8 x 3/4 in.



**Model 35**—3/4 in.



**Model 55**—1 in.



**Model 70**—1 in.

### DESCRIPTION

The Recordall Disc Series meters meet or exceed the most recent revision of AWWA Standard C700 and are available in a lead-free bronze alloy. The meters comply with the lead-free provisions of the Safe Drinking Water Act, are certified to NSF/ANSI Standards 61 and 372 (Trade Designations: M25-LL, M35-LL, M55-LL, M70-LL) and carry the NSF-61 mark on the housing. All components of the lead-free bronze alloy meter (housing, measuring element, seals, and so on) comprise the certified system.

**Applications:** For use in measurement of potable cold water in residential, commercial and industrial services where flow is in one direction only.

**Operation:** Water flows through the meter's strainer and into the measuring chamber where it causes the disc to nutate. The disc, which moves freely, nutates on its own ball, guided by a thrust roller. A drive magnet transmits the motion of the disc to a follower magnet located within the permanently sealed register. The follower magnet is connected to the register gear train. The gear train reduces the disc nutations into volume totalization units displayed on the register or encoder face.

**Operating Performance:** The Recordall Disc Series meters meet or exceed registration accuracy for the low flow rates (95%), normal operating flow rates (100 ±1.5%), and maximum continuous operation flow rates as specifically stated in AWWA Standard C700.

**Construction:** Recordall Disc meter construction, which complies with ANSI/AWWA standard C700, consists of three basic components: meter housing, measuring chamber and permanently sealed register or encoder. The meter is available in a lead-free bronze alloy with externally threaded spuds. A corrosion-resistant engineered polymer material is used for the measuring chamber.

**Magnetic Drive:** Direct magnetic drive, through the use of high-strength magnets, provides positive, reliable and dependable register coupling for straight-reading or AMR/AMI meter reading options.

**Tamper-Proof Features:** Unauthorized removal of the register or encoder is inhibited by the option of a tamper detection seal wire screw, TORX® tamper-resistant seal screw or the proprietary tamper-resistant keyed seal screw. Each can be installed at the meter site or at the factory.

**Maintenance:** Badger Meter Recordall Disc Series meters are designed and manufactured to provide long-term service with minimal maintenance. When maintenance is required, it can be performed easily either at the meter installation or at any other convenient location.

To simplify maintenance, the register, measuring chamber, and strainer can be replaced without removing the meter housing from the installation. No change gears are required for accuracy calibration. Interchangeability of parts among like-sized meters and meter models also minimizes spare parts inventory investment. The built-in strainer has an effective straining area of twice the inlet size.

**Connections:** Tailpieces/Unions for installations of meters on various pipe types and sizes, including misaligned pipes, are available as an option.

### Meter Spud and Connection Sizes

Model	Size Designation (in.)	×	"L" Laying Length (in.)	"B" Bore Dia. (in.)	Coupling Nut and Spud Thread (in.)	Tailpiece Pipe Thread (NPT) (in.)
25	5/8	×	7-1/2	5/8	3/4 (5/8)	1/2
	5/8 x 3/4	×	7-1/2	5/8, 3/4	1 (3/4)	3/4
35	3/4	×	7-1/2	3/4	1 (3/4)	3/4
	3/4	×	9	3/4	1 (3/4)	3/4
	3/4 x 1	×	9	3/4	1-1/4 (1)	1
55	1	×	10-3/4	1	1-1/4 (1)	1
70	1	×	10-3/4	1	1-1/4 (1)	1

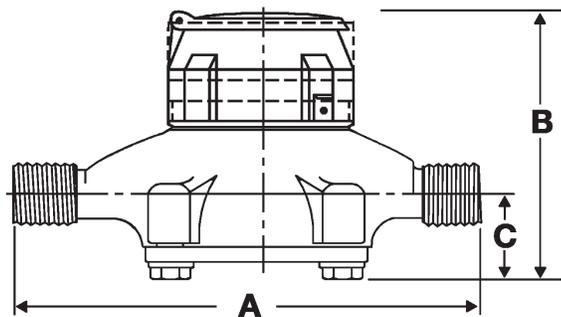
## SPECIFICATIONS

	<b>Model 25</b> <b>(5/8 in. &amp; 5/8 x 3/4 in.)</b>	<b>Model 35</b> <b>(3/4 in.)</b>	<b>Model 55</b> <b>(1 in.)</b>	<b>Model 70</b> <b>(1 in.)</b>
<b>Typical Operating Range</b> <b>(100% ±1.5%)</b>	0.5...25 gpm (0.11...5.7 m <sup>3</sup> /hr)	0.75...35 gpm (0.17...7.9 m <sup>3</sup> /hr)	1...55 gpm (0.23...12.5 m <sup>3</sup> /hr)	1.25...70 gpm (0.28...16 m <sup>3</sup> /hr)
<b>Low Flow</b>	0.25 gpm (0.057 m <sup>3</sup> /hr) Min. 98.5%	0.375 gpm (0.085 m <sup>3</sup> /hr) Min. 97%	0.5 gpm (0.11 m <sup>3</sup> /hr) Min. 95%	0.75 gpm (0.17 m <sup>3</sup> /hr) Min. 95%
<b>Maximum Continuous Operation</b>	15 gpm (3.4 m <sup>3</sup> /hr)	25 gpm (5.7 m <sup>3</sup> /hr)	40 gpm (9.1 m <sup>3</sup> /hr)	50 gpm (11.3 m <sup>3</sup> /hr)
<b>Pressure Loss at Maximum Continuous Operation</b>	<b>5/8 in. size:</b> 3.5 psi @ 15 gpm (0.24 bar @ 3.4 m <sup>3</sup> /hr) <b>5/8 x 3/4 in. size:</b> 2.8 psi @ 15 gpm (0.19 bar @ 3.4 m <sup>3</sup> /hr)	5 psi @ 25 gpm (0.37 bar @ 5.7 m <sup>3</sup> /hr)	3.4 psi @ 40 gpm (0.23 bar @ 9.1 m <sup>3</sup> /hr)	6.5 psi @ 50 gpm (0.45 bar @ 11.3 m <sup>3</sup> /hr)
<b>Maximum Operating Temperature</b>	80° F (26° C)			
<b>Maximum Operating Pressure</b>	150 psi (10 bar)			
<b>Measuring Element</b>	Nutating disc, positive displacement			
<b>Meter Connections</b>	<i>Available in NL bronze and engineered polymer to fit spud thread bore diameter sizes:</i>			
	<b>5/8 in. size:</b> 5/8 in. (DN 15 mm) <b>5/8 x 3/4 in. size:</b> 3/4 in. (DN 15 mm)	3/4 in. (DN 20 mm)	1 in. (DN 25 mm)	1 in. (DN 25 mm)

## MATERIALS

	<b>Model 25</b> <b>(5/8 in. &amp; 5/8 x 3/4 in.)</b>	<b>Model 35</b> <b>(3/4 in.)</b>	<b>Model 55</b> <b>(1 in.)</b>	<b>Model 70</b> <b>(1 in.)</b>
<b>Meter Housing</b>	Lead-free bronze alloy			
<b>Housing Bottom Plates</b>	Cast iron, lead-free bronze alloy, engineered polymer	Cast iron, lead-free bronze alloy		
<b>Measuring Chamber</b>	Engineered polymer			
<b>Disc</b>	Engineered polymer			
<b>Trim</b>	Stainless steel			
<b>Strainer</b>	Engineered polymer			
<b>Disc Spindle</b>	Stainless steel	Stainless steel	Engineered polymer	Stainless steel
<b>Magnet</b>	Ceramic	Ceramic	Ceramic	Ceramic
<b>Magnet Spindle</b>	Engineered polymer	Stainless steel	Engineered polymer	Stainless steel
<b>Register Lid and Shroud</b>	Engineered polymer, bronze			

## DIMENSIONS



Meter Size	Model	A Laying Length	B Height Reg.	C Centerline Base	Width	Approx. Shipping Weight
5/8 in. (15 mm)	25	7-1/2 in. (190 mm)	4-15/16 in. (125 mm)	1-11/16 in. (42 mm)	4-1/4 in. (108 mm)	4-1/2 lb (2 kg)
5/8 in. x 3/4 in. (15 mm)		7-1/2 in. (190 mm)	4-15/16 in. (125 mm)	1-11/16 in. (42 mm)	4-1/4 in. (108 mm)	4-1/2 lb (2 kg)
3/4 in. (20 mm)	35	7-1/2 in. (190 mm)	5-1/4 in. (133 mm)	1-5/8 in. (41 mm)	5 in. (127 mm)	5-1/2 lb (2.5 kg)
3/4 in. (20 mm)		9 in. (229 mm)	5-1/4 in. (133 mm)	1-5/8 in. (41 mm)	5 in. (127 mm)	5-3/4 lb (2.6 kg)
3/4 in. x 1 in. (20 mm)		9 in. (229 mm)	5-1/4 in. (133 mm)	1-5/8 in. (41 mm)	5 in. (127 mm)	6 lb (2.7 kg)
1 in. (25 mm)	55	10-3/4 in. (273 mm)	6 in. (152 mm)	2-1/32 in. (52 mm)	6-1/4 in. (159 mm)	8-3/4 lb (3.9 kg)
1 in. (25 mm)	70	10-3/4 in. (273 mm)	6-1/2 in. (165 mm)	2-5/16 in. (59 mm)	7-3/4 in. (197 mm)	11-1/2 lb (5.2 kg)

## REGISTERS / ENCODERS

### Standard—Sweep-Hand Registration

The standard register is a straight-reading, permanently sealed magnetic drive register. Dirt, moisture, tampering and lens fogging problems are eliminated. The register has a six-odometer wheel totalization display, 360° test circle with center sweep hand, and flow finder to detect leaks. Register gearing is made of self-lubricating engineered polymer, which minimizes friction and provides long life. The multi-position register simplifies meter installation and reading. The register capacity is 10,000,000 gallons (1,000,000 ft<sup>3</sup>, 100,000 m<sup>3</sup>).

A Model 25 register is used in the following example:



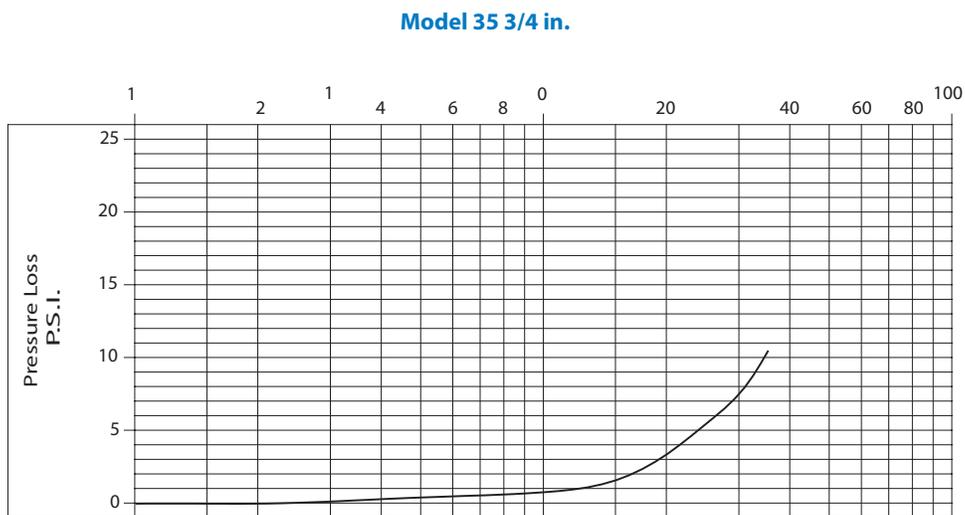
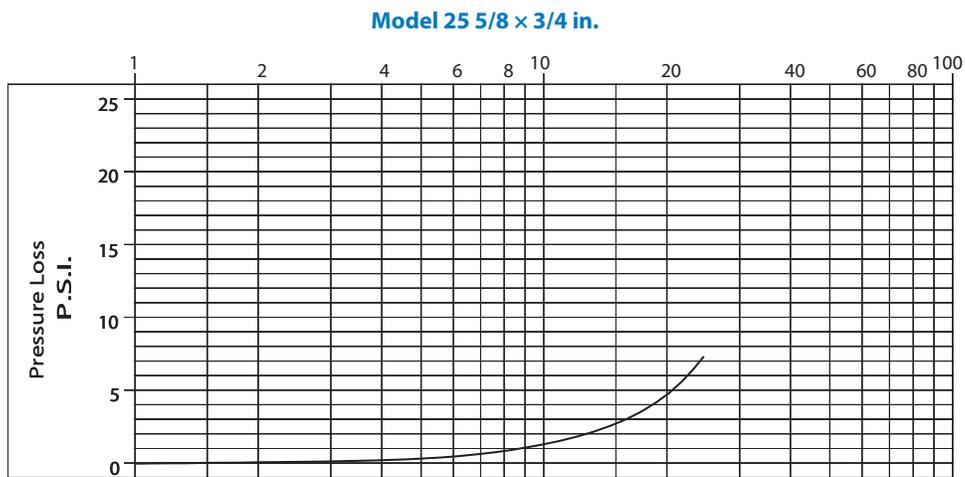
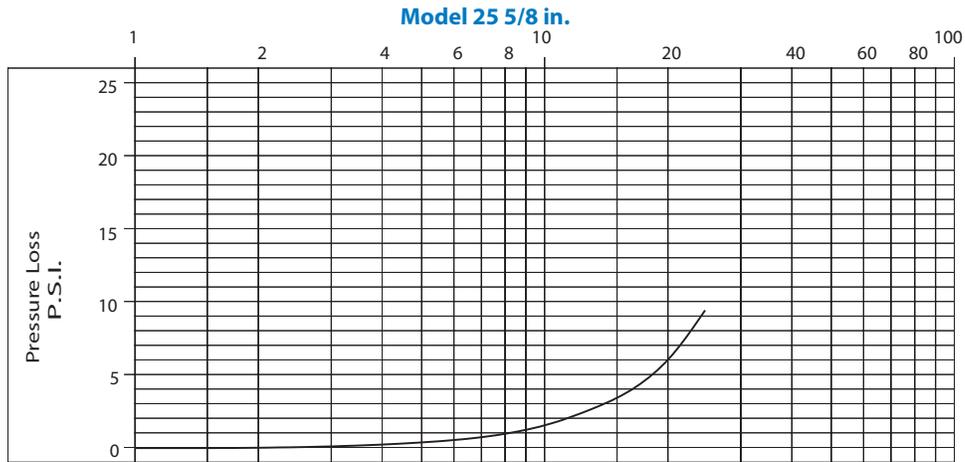
Model	Gallon	Cubic Feet	Cubic Meter
25 (5/8 in.)	10	1	0.1/0.01
25 (5/8 x 3/4 in.)	10	1	0.1/0.01
35	10	1	0.1
55	10	1	0.1
70	10	1	0.1

### Optional—Encoders for AMR/AMI Reading Solutions

AMR/AMI solutions are available for all Recordall Disc Series meters. All reading options can be removed from the meter without disrupting water service. Badger Meter encoders provide years of reliable, accurate readings for a variety of applications. See details at [www.badgermeter.com](http://www.badgermeter.com).

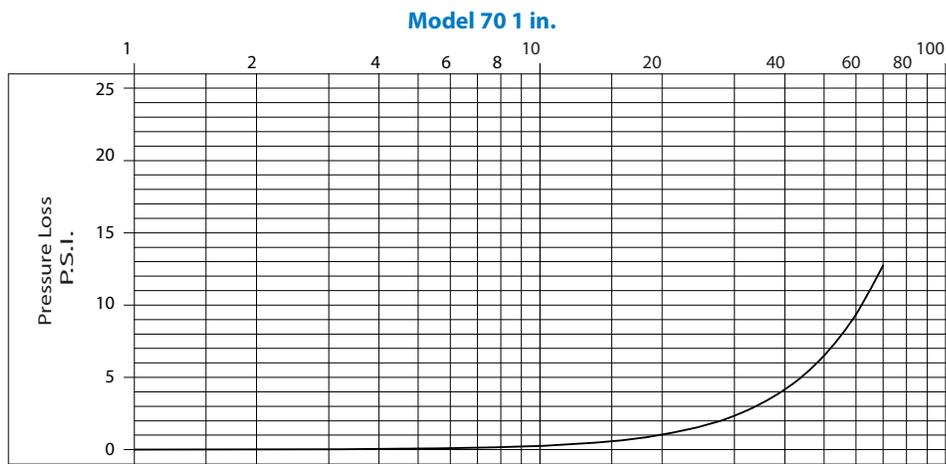
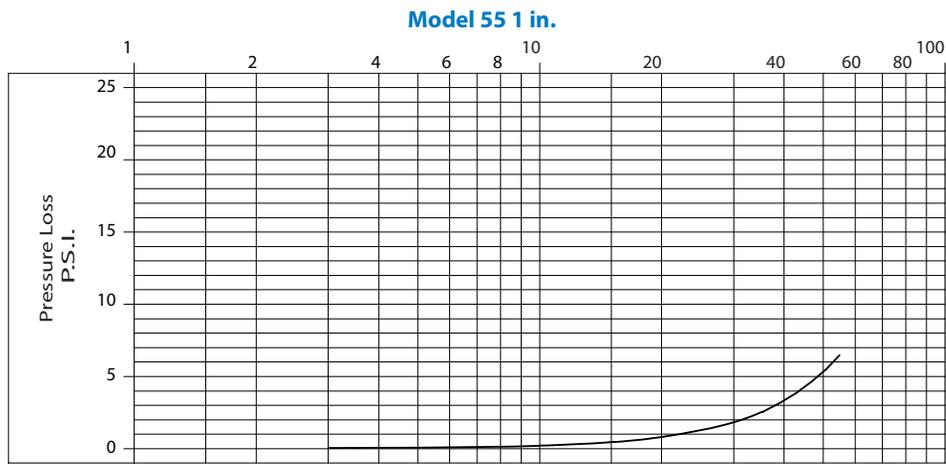
**PRESSURE LOSS CHARTS**

Rate of Flow in Gallons per Minute



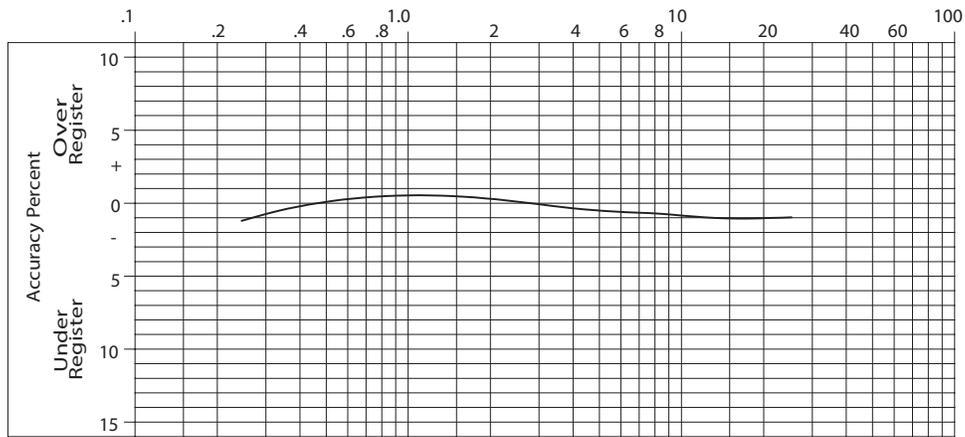
**PRESSURE LOSS CHARTS (CONTINUED)**

Rate of Flow in Gallons per Minute

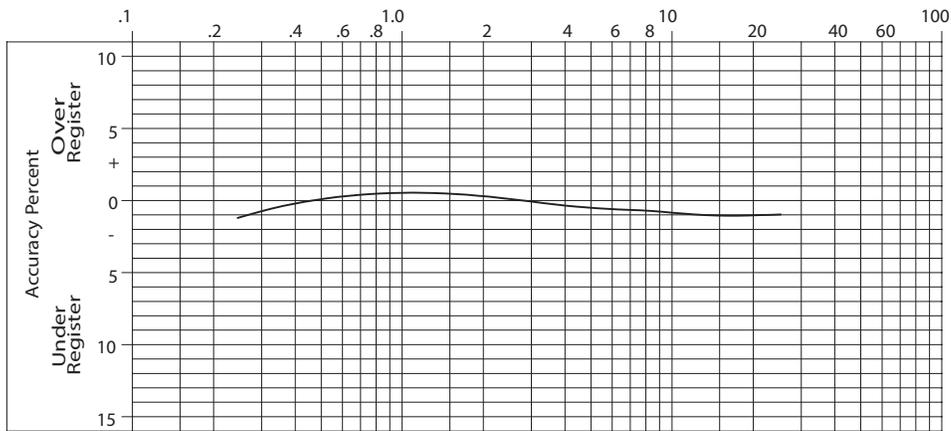


## ACCURACY CHARTS

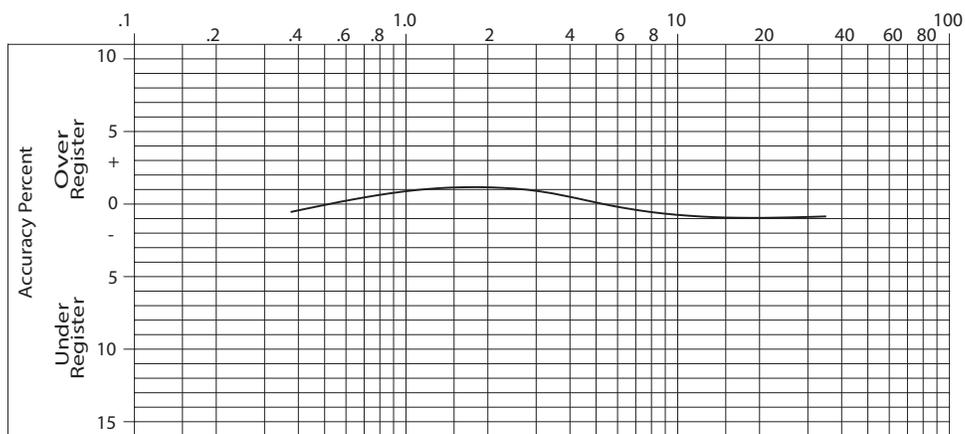
**Model 25 5/8 in.**



**Model 25 5/8 x 3/4 in.**

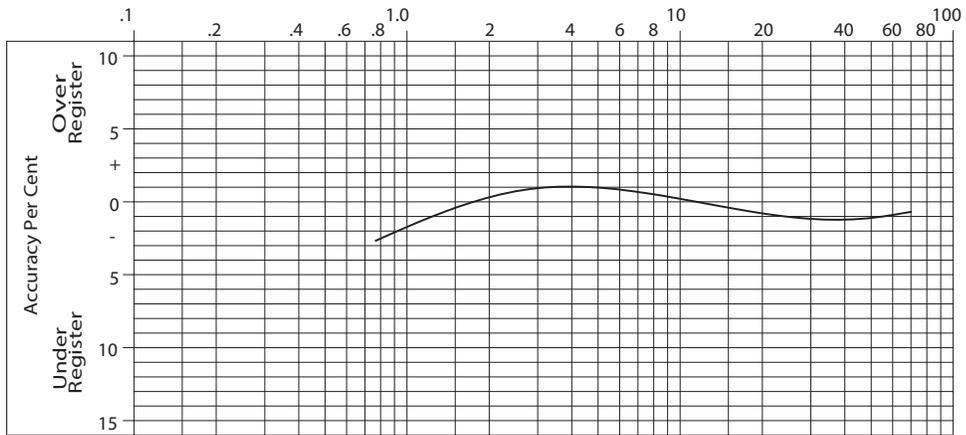


**Model 35 3/4 in.**

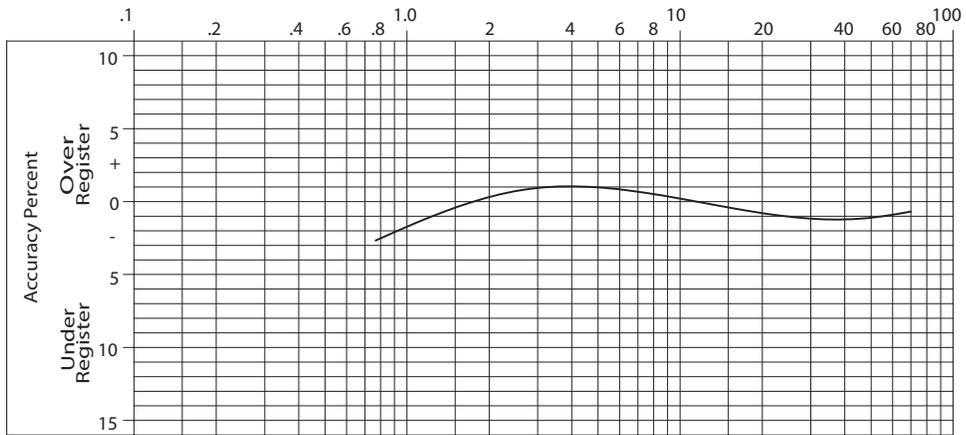


**ACCURACY CHARTS (CONTINUED)**

**Model 55 1 in.**



**Model 70 1 in.**



## **SMART WATER IS BADGER METER**

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[www.badgermeter.com](http://www.badgermeter.com)

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**México | Badger Meter de las Americas, S.A. de C.V.** | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882  
**Europe, Eastern Europe Branch Office (for Poland, Latvia, Lithuania, Estonia, Ukraine, Belarus) | Badger Meter Europe** | ul. Korfantego 6 | 44-193 Knurów | Poland | +48-32-236-8787  
**Europe, Middle East and Africa | Badger Meter Europa GmbH** | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0  
**Europe, Middle East Branch Office | Badger Meter Europe** | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503  
**Slovakia | Badger Meter Slovakia s.r.o.** | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01  
**Asia Pacific | Badger Meter** | 80 Marine Parade Rd | 19-07 Parkway Parade | Singapore 449269 | +65-63464836  
**Switzerland | Badger Meter Swiss AG** | Mittelholzerstrasse 8 | 3006 Bern | Switzerland | +41-31-932 01 11



## Recordall® Turbo Series Meters

Models 160 (1-1/2 in.), 200 (2 in.), 450 (3 in.), 1000 (4 in.), 2000 (6 in.), 3500 (8 in.), 5500 (10 in.) and 6200 (12 in.)  
NSF/ANSI/CAN Standards 61 and 372 Certified

### DESCRIPTION

Recordall Turbo Series meters meet or exceed the most recent revision of AWWA Standard C701 Class II Standards and are available in a lead-free bronze alloy for sizes 1-1/2 in. through 10 in. and cast iron for 12 in. meters. Turbo Series meters comply with the lead-free provisions of the Safe Drinking Water Act. Sizes 1-1/2 in. through 12 in. meters are also certified to NSF/ANSI/CAN Standards 61 and 372 (Trade Designation: Turbo Series LL-NS) and carry the NSF-61 mark on the housing. All components of the lead-free alloy meter (housing, measuring element, seals and so on) comprise the certified system.

**Models 160 through 6200 are designed for 1-1/2 in. through 12 in. applications. These meters feature:**

- Direct coupled turbine based on an exclusive “floating rotor” design that reduces bearing friction—and associated wear and tear.
- Low pressure loss for improved system efficiency.
- Exceptional registration accuracy across low flow rate, normal operating flow rate and maximum continuous operation flow.
- Permanently sealed, tamper-resistant register or encoder.
- Integral strainer helps protect your system from damaging debris and related downtime. Integral strainer is standard on 1-1/2 in. meter, and optional on 2 in. through 4 in. meters.
- Meters and encoders are compatible with Badger Meter AMR/AMI meter reading systems and other approved reading technologies.

**Applications:** Recordall Turbo Series meters are designed for cold water, commercial and industrial applications where flows are consistent medium to high flows. Applications include hotels, apartment buildings, irrigations centers and manufacturing and processing plants. Turbo Series meters help reduce day-to-day maintenance costs while delivering accurate and efficient performance.

**Operation & Performance:** Direct magnetic drive is achieved when the magnet carrier is driven by a gear train coupled to the rotor. The gear train consists of two sets of gears connected by a vertical transmission shaft. One gear set is at the magnet carrier, the other is a worm gear set at the rotor shaft. When water flows into the Turbo Series meter measuring element, it contacts the multi-vaned rotor. The resulting rotor rotation is then transmitted by magnetic coupling to a sealed register or encoder. The direct magnetic drive is built to provide a reliable meter-to-registration coupling.



**Tamper-Proof Features:** Unauthorized removal of the register or encoder is inhibited by the option of a tamper detection seal wire screw, TORX® tamper-resistant seal screw or the proprietary tamper-resistant keyed seal screw. Each can be installed at the meter site or at the factory.

**Construction:** The Recordall Turbo Series meter is constructed in compliance with ANSI and AWWA C701 standards. It consists of the following basic components: meter housing, interchangeable, unitized measuring element and permanently sealed direct reading registers or encoders.

The measuring element consists of the transmission coupling, rotor, inlet and outlet straightening vanes with nose cones, and calibration ring assembly. The unique inlet and outlet straightening vanes minimize swirl from piping arrangements upstream as well as downstream.

A strainer is recommended to help ensure optimal flow conditioning and protection for the measuring element. The integral strainer is standard on the 1-1/2 in. meter and an available option on the 2 in. through 4 in. meters. The stainless steel strainer is built into the inlet end and includes a removable cover plate to permit easy access for routine cleaning. External strainers are available in sizes 2 in. through 12 in.

To simplify maintenance, the registers or encoders and measuring elements can be removed without removing the meter housing. Interchangeability of certain parts between meters also minimizes spare parts inventory investment.

**Meter Installation:** The meter is designed for installations where flow is in one direction only. Companion flanges for installation of meters on various pipe types and sizes are available in cast iron or NL bronze as an option. See the *Recordall Turbo Series Meters User Manual* available at [badgermeter.com](http://badgermeter.com) for specific instructions.



RTS-DS-00320-EN-09 (May 2022)

# Product Data Sheet

## SPECIFICATIONS

Turbo Series Model	160 1-1/2 in. (40 mm)	200 2 in. (50 mm)	450 3 in. (80 mm)	1000 4 in. (100 mm)	2000 6 in. (150 mm)	3500 8 in. (200 mm)	5500 10 in. (250 mm)	6200 12 in. (300 mm)
Meter Flanges AWWA 125 Pound Class	Elliptical	Elliptical or Round	Round	Round	Round	Round	Round	Round AWWA 125 lb class
Typical Operating Range (100% ± 1.5%)	4...200 gpm (0.9...45.4 m <sup>3</sup> /h)	4...310 gpm (0.9...70.4 m <sup>3</sup> /h)	5...550 gpm (1.1...124.9 m <sup>3</sup> /h)	10...1250 gpm (2.3...284 m <sup>3</sup> /hr)	20...2500 gpm (4.5...568 m <sup>3</sup> /h)	30...4500 gpm (6.8...1022 m <sup>3</sup> /h)	50...7000 gpm (11.4...1590 m <sup>3</sup> /h)	90...8800 gpm (20.5...1998 m <sup>3</sup> /h)
Typical Low Flow (95% min.)	2.5 gpm (0.6 m <sup>3</sup> /h)	2.5 gpm (0.6 m <sup>3</sup> /h)	4 gpm (0.9 m <sup>3</sup> /h)	6 gpm (1.4 m <sup>3</sup> /h)	12 gpm (2.7 m <sup>3</sup> /h)	20 gpm (4.5 m <sup>3</sup> /h)	30 gpm (6.8 m <sup>3</sup> /h)	65 gpm (14.8 m <sup>3</sup> /h)
Max. Continuous Flow	160 gpm (36 m <sup>3</sup> /h)	200 gpm (45.4 m <sup>3</sup> /h)	450 gpm (102.2 m <sup>3</sup> /h)	1000 gpm (227.1 m <sup>3</sup> /h)	2000 gpm (454 m <sup>3</sup> /h)	3500 gpm (795 m <sup>3</sup> /h)	5500 gpm (1250 m <sup>3</sup> /h)	6200 gpm (1408 m <sup>3</sup> /h)
Maximum Intermittent Flow	200 gpm (45.4 m <sup>3</sup> /h)	310 gpm (70.4 m <sup>3</sup> /h)	550 gpm (124.9 m <sup>3</sup> /h)	1250 gpm (284 m <sup>3</sup> /h)	2500 gpm (568 m <sup>3</sup> /h)	4500 gpm (1022 m <sup>3</sup> /h)	7000 gpm (1590 m <sup>3</sup> /h)	8800 gpm (1988 m <sup>3</sup> /h)
Pressure Loss at Max. Continuous Flow	3.8 psi (0.26 bar)	3.1 psi (0.21 bar)	1.8 psi (0.12 bar)	7.3 psi (0.50 bar)	4.8 psi (0.33 bar)	2.5 psi (0.17 bar)	1.6 psi (0.11 bar)	0.8 psi (0.05 bar)
Pressure Loss at Max. Continuous Flow: With Integral Strainer	9.9 psi (0.68 bar)	8.3 psi (0.57 bar)	5 psi (0.43 bar)	17.8 psi (1.2 bar)	—			
Max. Operating Pressure	150 psi (10 bar)							
Max. Operating Temperature	120° F (49° C)							
Integral Strainer	Optional on 2 in. through 4 in. meters. Built into inlet end. Removable cover plate permits access to strainer for cleaning.				—			
Optional External Strainer	—	Available for Models 200, 450, 1000, 2000, 3500, 5500 and 6200.						
NPT Test Port	Standard with integral strainer; optional for other models.				Optional for Models 2000 and 3500.		—	

## MATERIALS

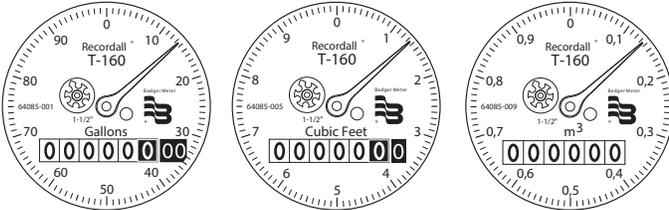
Meter Housing	Lead-free alloy ( <b>EXCEPTION:</b> Model 6200 meter housing is blue epoxy-coated cast iron)
Turbo Head	Lead-free alloy
Nose Cone & Straightening Vanes	Thermoplastic
Rotor	Thermoplastic
Rotor Radial Bearings	Lubricated thermoplastic
Rotor Thruster Bearing	Sapphire jewels
Rotor Bearing Pivots	Passivated 316 stainless steel
Calibration Mechanism	Stainless steel & thermoplastic
Magnet	Ceramic
Trim	Stainless steel
Register Housing & Cover	Thermoplastic or bronze
Integral Strainer & Trim	Stainless steel

## REGISTERS / ENCODERS

### Standard—Sweep-Hand Registration

The standard register is a straight-reading, permanently sealed magnetic drive register. Dirt, moisture, tampering and lens fogging problems are eliminated. The register has a six-odometer wheel totalization display, 360° test circle with center sweep hand, and flow finder to detect leaks. Register gearing is made of self-lubricating engineered polymer, which minimizes friction and provides long life. The multi-position register simplifies meter installation and reading. The register capacity for the 1-1/2 in., 2 in., 3 in. and 4 in. meters is 100,000,000 gallons (10,000,000 ft<sup>3</sup>, 1,000,000 m<sup>3</sup>). The register capacity for the 6 in., 8 in., and 10 in. meters is 1,000,000,000 gallons (100,000,000 ft<sup>3</sup>, 10,000,000 m<sup>3</sup>). The high-flow register capacity for the 12 in. meter is 10,000,000,000 gallons (1,000,000,000 ft<sup>3</sup>, 10,000,000 m<sup>3</sup>).

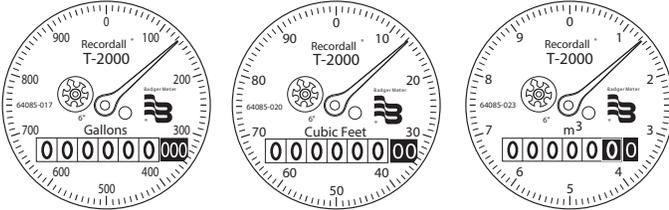
### Registers for 1-1/2 in., 2 in., 3 in. and 4 in. Meters



#### Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
160	100	10	1
200	100	10	1
450	100	10	1
1000	100	10	1

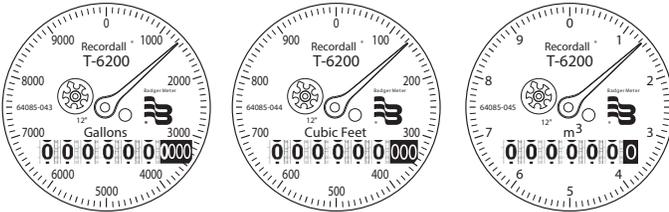
### Registers for 6 in., 8 in. and 10 in. Meters



#### Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
2000	1000	100	10
3500	1000	100	10
5500	1000	100	10

### Registers for 12 in. Meters



#### Sweep Hand Revolution

Meter Model	Gallon	Cubic Feet	Cubic Meter
6200	10000	1000	10

### Optional—Encoders for AMR/AMI Reading Solutions

AMR/AMI solutions are available for all Recordall Disc Series meters. All reading options can be removed from the meter without disrupting water service. Badger Meter encoders provide years of reliable, accurate readings for a variety of applications and are also available pre-wired to Badger Meter approved AMR/AMI solutions. See details at [badgermeter.com](http://badgermeter.com).

## PHYSICAL DIMENSIONS OF METERS WITHOUT STRAINER

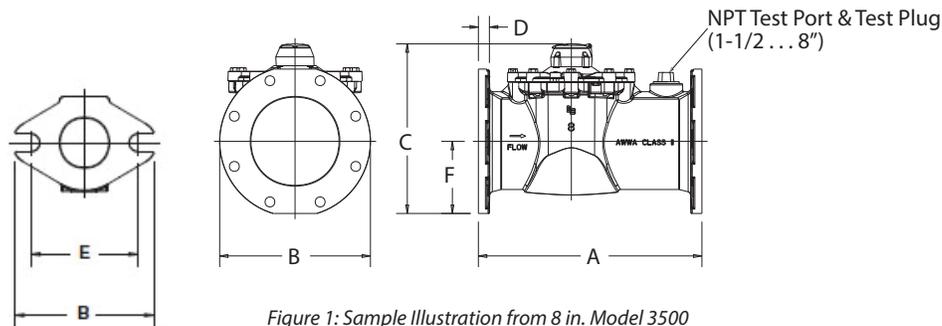


Figure 1: Sample Illustration from 8 in. Model 3500

Turbo Series Model	200	200	450	1000	2000	3500	5500	6200
<b>Meter Flanges</b>	2 in. Elliptical	2 in. Round	3 in. Round	4 in. Round	6 in. Round	8 in. Round	10 in. Round	12 in. Round
<b>Meter &amp; Pipe Size</b>	2 in. (50 mm)	2 in. (50 mm)	3 in. (80 mm)	4 in. (100 mm)	6 in. (150 mm)	8 in. (200 mm)	10 in. (250 mm)	12 in. (300 mm)
<b>Net Weight</b>	14.9 lb (6.8 kg)	17.4 lb (7.9 kg)	31 lb (14.1 kg)	40 lb (18.1 kg)	77 lb (35 kg)	123 lb (55.7 kg)	210 lb (95.3 kg)	262 lb (118.8 kg)
<b>Shipping Weight</b>	16.4 lb (7.4 kg)	18.9 lb (8.6 kg)	34 lb (15.4 kg)	45 lb (20.4 kg)	89 lb (40.4 kg)	147 lb (66.6 kg)	235 lb (106.6 kg)	286 lb (129.7 kg)
<b>Qty. of Bolts</b>	2	4	4	8	8	8	12	12
<b>NPT Test Port (optional)</b>	1-1/2 in. (40 mm)	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)	2 in. (50 mm)	2 in. (50 mm)	—	—
<b>Length (A)</b>	10 in. (254 mm)	10 in. (254 mm)	12 in. (305 mm)	14 in. (356 mm)	18 in. (457 mm)	20 in. (508 mm)	26 in. (660.4 mm)	19-11/16 in. (500 mm)
<b>Width (B)</b>	5-27/32 in. (148 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9 in. (229 mm)	11 in. (280 mm)	13-1/2 in. (343 mm)	16 in. (406.4 mm)	19 in. (482 mm)
<b>Height (C)</b>	6-1/2 in. (165 mm)	7-3/32 in. (180 mm)	8-11/16 in. (220 mm)	9-21/32 in. (245 mm)	13-5/16 in. (338 mm)	15-3/16 in. (385 mm)	17-15/32 in. (443 mm)	19-11/16 in. (500 mm)
<b>Flange (D)</b>	25/32 in. (20 mm)	5/8 in. (16 mm)	3/4 in. (19 mm)	13/16 in. (21 mm)	7/8 in. (22 mm)	1 in. (25 mm)	1-1/16 in. (27 mm)	1.26 in. (32 mm)
<b>Bolt Circle (E)</b>	4-1/2 in. (114 mm)	4-3/4 in. (121 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9-1/2 in. (241 mm)	11-3/4 in. (298 mm)	14-1/4 in. (362 mm)	17 in. (432 mm)
<b>Centerline (F)</b>	2-1/16 in. (52 mm)	2-5/8 in. (67 mm)	3-11/32 in. (85 mm)	4-5/16 in. (109 mm)	5-1/4 in. (133 mm)	6-3/8 in. (162 mm)	7-7/8 in. (199.4 mm)	8-7/8 in. (226 mm)

**PHYSICAL DIMENSIONS OF METERS WITH INTEGRAL STRAINER**

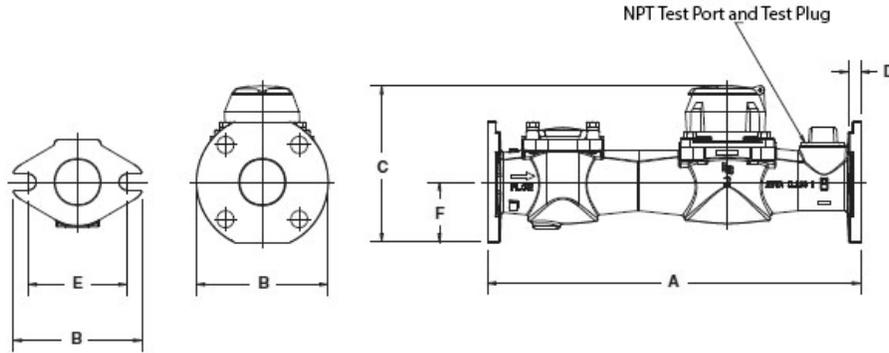
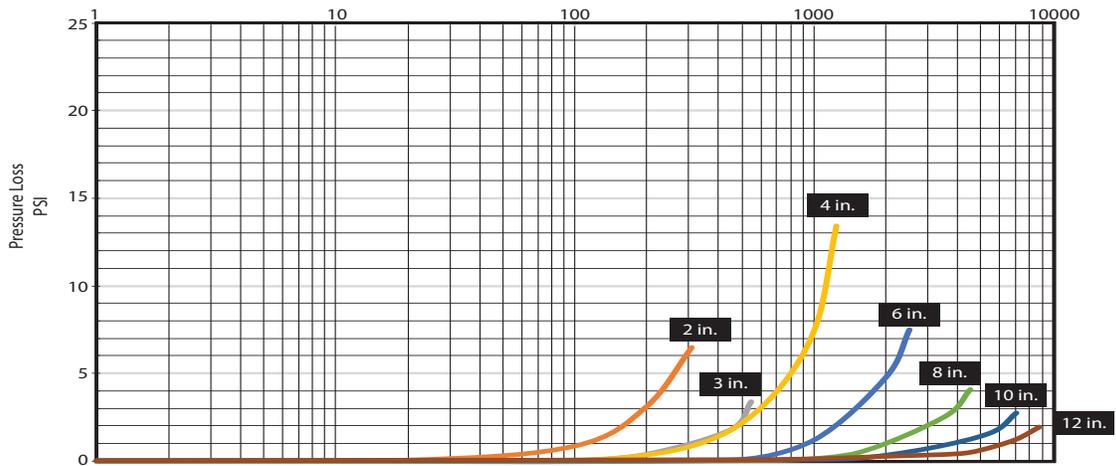


Figure 2: Physical dimensions

Turbo Series Model	160	200	200	450	1000
<b>Meter Flanges</b>	Elliptical	Elliptical	Round	Round	Round
<b>Meter &amp; Pipe Size</b>	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)	3 in. (80 mm)	4 in. (100 mm)
<b>Net Weight</b>	14.3 lb (6.5 kg)	24 lb (11 kg)	26 lb (12 kg)	49 lb (22 kg)	60 lb (27.22 kg)
<b>Shipping Weight</b>	16.8 lb (7.6 kg)	28 lb (13 kg)	30 lb (14 kg)	55 lb (25 kg)	70 lb (31.75 kg)
<b>Number of Bolts</b>	2	2	4	4	8
<b>NPT Test Port (Standard)</b>	1 in. (25.4 mm)	1-1/2 in. (40 mm)	1-1/2 in. (40 mm)	2 in. (50 mm)	2 in. (50 mm)
<b>Length (A)</b>	13 in. (330 mm)	17 in. (432 mm)	17 in. (432 mm)	19 in. (483 mm)	23 in. (584 mm)
<b>Width (B)</b>	5-7/32 in. (133 mm)	5-27/32 in. (148 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)	9 in. (229 mm)
<b>Height (C)</b>	6-9/32 in. (159 mm)	6-1/2 in. (165 mm)	7-3/32 in. (180 mm)	8-15/16 in. (227 mm)	9-21/32 in. (245 mm)
<b>Flange (D)</b>	51/64 in. (20 mm)	27/32 in. (47 mm)	5/8 in. (16 mm)	27/32 in. (21 mm)	13/16 in. (21 mm)
<b>Bolt Circle (E)</b>	4 in. (102 mm)	4-1/2 in. (114 mm)	4-3/4 in. (121 mm)	6 in. (152 mm)	7-1/2 in. (191 mm)
<b>Centerline (F)</b>	1-27/32 in. (47 mm)	2-1/16 in. (52 mm)	2-5/8 in. (67 mm)	3-19/32 in. (91 mm)	4-5/16 in. (109 mm)

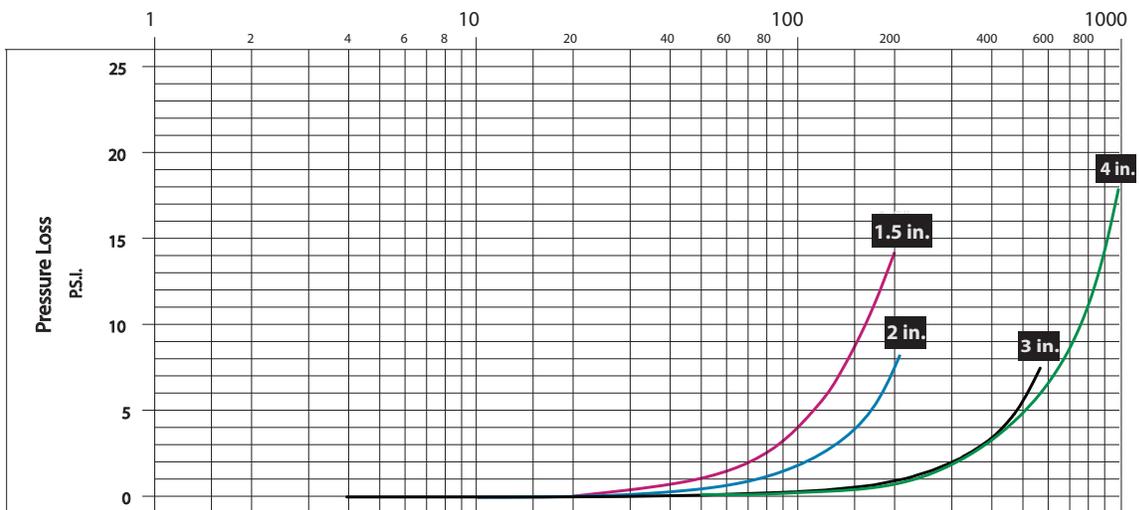
### PRESSURE LOSS CHART FOR METERS WITHOUT STRAINER

Rate of flow in gallons per minute (gpm)



### PRESSURE LOSS CHART FOR METERS WITH INTEGRAL STRAINER

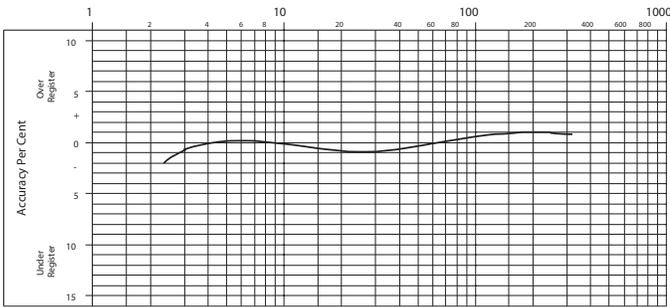
Rate of flow in gallons per minute (gpm)



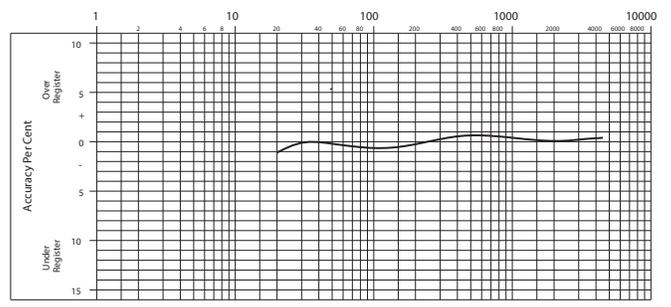
## ACCURACY CHARTS FOR METERS WITHOUT STRAINER

Rate of flow in gallons per minute (gpm)

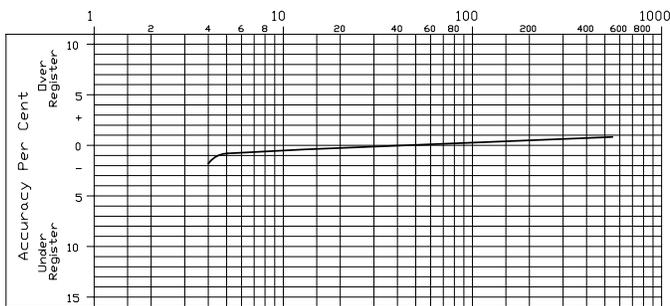
**2 in. Meter**



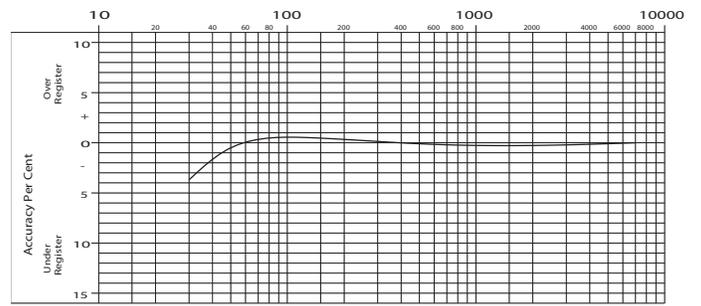
**8 in. Meter**



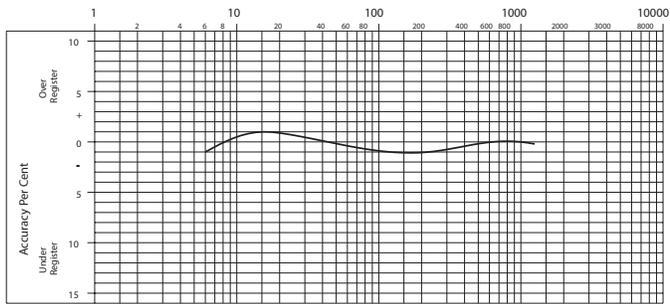
**3 in. Meter**



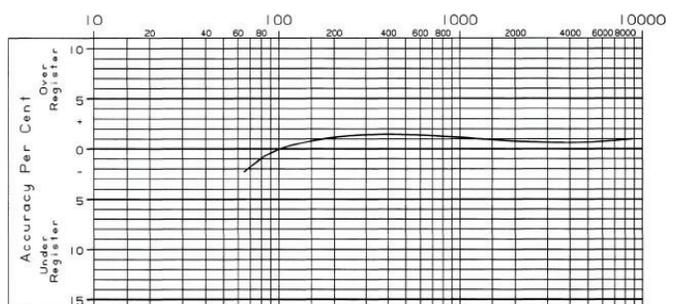
**10 in. Meter**



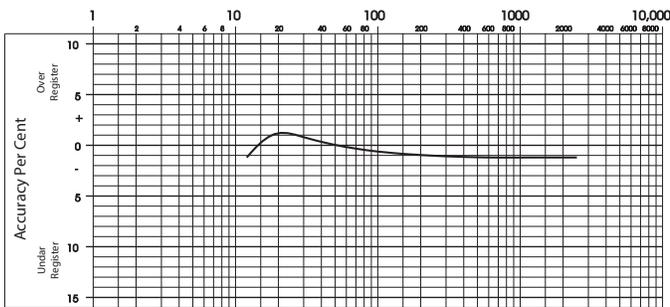
**4 in. Meter**



**12 in. Meter**



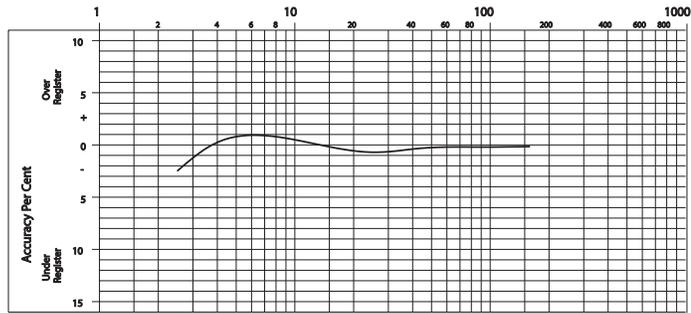
**6 in. Meter**



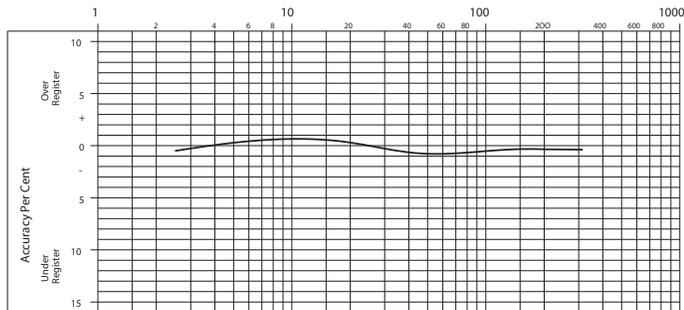
## ACCURACY CHARTS FOR METERS WITH INTEGRAL STRAINER

Rate of flow in gallons per minute (gpm)

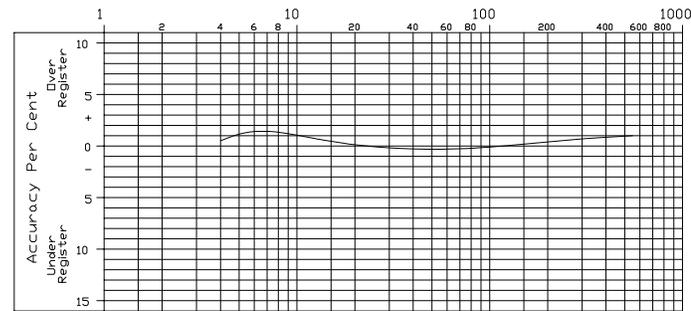
1-1/2 in. Meter



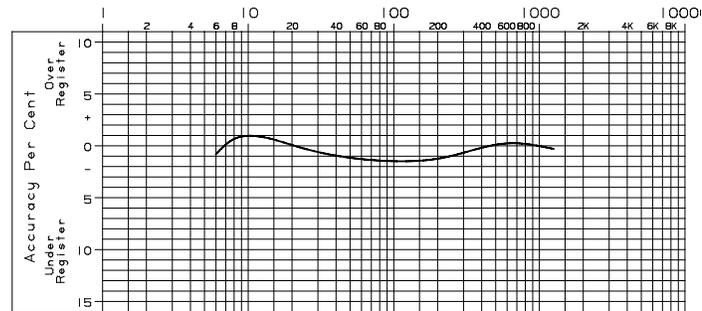
2 in. Meter



3 in. Meter



4 in. Meter



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**Badger Meter**

# HR-E High Resolution Encoder

## DESCRIPTION

**Applications:** The High Resolution Encoder (HR-E) is designed for use with all current Recordall® Disc, Turbo, Compound, Combo and Fire Series meters and assemblies. The HR-E provides connectivity with Badger Meter ORION® and GALAXY® AMR/AMI endpoints, BadgerTouch® modules and other AMR/AMI technology solutions approved by Badger Meter.

**Electronic Resolution:** Encoder output from the HR-E includes eight-dial resolution to AMR/AMI endpoints and the option of four, five, six, seven or eight-dial resolution for touch applications. Refer to tables on the next page for details.

**Mounting:** The HR-E in its shroud assembly uses a bayonet mount compatible with all Recordall Disc, Turbo, Compound and Fire Series meters and assemblies. The bayonet mount allows positioning of the register in any of four orientations for visual reading convenience. The HR-E can be removed from the meter without disrupting water service.

**Magnetic Drive:** A direct-drive, high-strength magnetic coupling, through the meter body to the wetted magnet, provides reliable and dependable register coupling.

**Local Indication:** The HR-E face features an eight-dial mechanical odometer wheel stack and a flow finder with a calibrated test circle.

**Tamper-Resistant Features:** Unauthorized removal of the HR-E is inhibited by the option of a tamper detection seal wire screw, tamper-resistant TORX® seal screw, or the proprietary tamper-resistant keyed seal screw. Each can be installed at the meter site or at the factory.

**Construction:** The housing of the HR-E is constructed of a strengthened glass lens top and a corrosion-resistant metal bottom. Internal construction materials are thermoplastic for long life and high reliability. The encoder gearing is self-lubricating thermoplastic to minimize friction and provide long, reliable life. The shroud assembly is thermoplastic.

**Temperature:** The operating range of the HR-E is -40...140° F (-40...60° C). The water meter should not be subjected to temperatures below freezing.

**Sealing:** The HR-E encoder is permanently sealed to eliminate the intrusion of moisture, dirt or other contaminants. The HR-E achieves true water resistance due to the unique adhesive technology used to seal the glass dome to the corrosion-resistant metal bottom. Due to this sealing process, the HR-E exceeds all applicable requirements of AWWA Standard C707. With leak rates less than 10-6 cc/sec, as tested by a helium mass spectrometer, the HR-E is suitable for installation in all environments, including meter pits subject to continuous submergence.

**Electrical:** The electronic circuitry is designed to provide immunity to electrical surges and transients per IEC 1000-4-2, IEC 1000-4-4. Operation of the HR-E is dependent on the wire length limitations of connected AMR/AMI equipment.



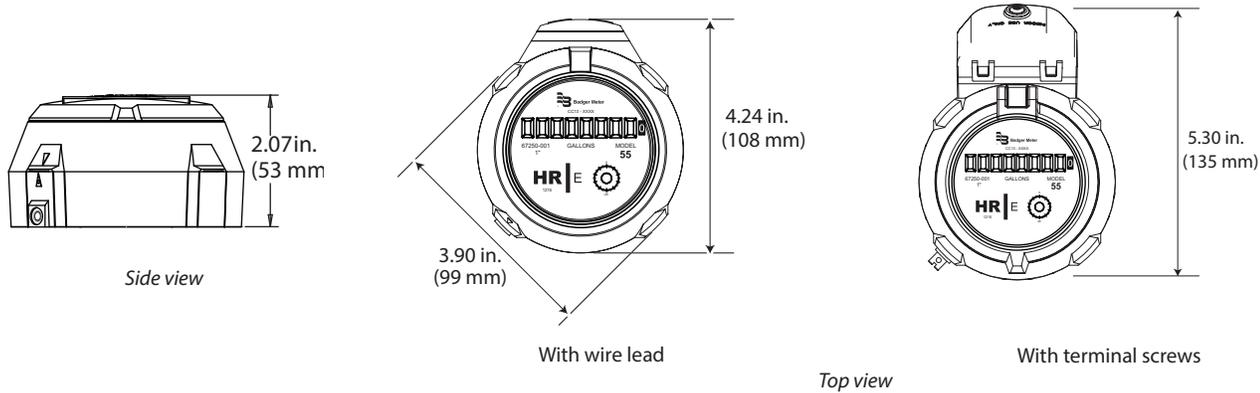
## SPECIFICATIONS

<b>Encoder Type</b>	Straight reading, permanently sealed, magnetic drive
<b>Unit of Measure</b>	U.S. Gallons, Cubic Feet, Cubic Meters, clearly identified on encoder face
<b>Number Wheels</b>	Eight with 5/32 inch high numerals
<b>Test Circle</b>	360° circle with ten major increments, ten divisions each
<b>Weight</b>	10 ounces
<b>Humidity</b>	0...100% condensing when equipped with potted lead wire, 0...95% non-condensing with screw-terminal wire connections
<b>Temperature</b>	-40...140° F (-40...60° C)
<b>Signal Output</b>	Industry Standard ASCII Format
<b>Visual Resolution</b>	1/100th of Test Circle
<b>Electronic Resolution</b>	8-dial resolution for AMR/AMI; 4, 5, 6, 7 or 8-dial resolution for BadgerTouch
<b>Signal Type</b>	3-wire synchronous for AMR/AMI solutions (red=clock/power, black=ground, green=data) 2-wire asynchronous for Touch solutions
<b>Power Source</b>	External

**Operating Characteristics:** The reading obtained by an AMR/AMI device is sensed directly from the position of the encoder's odometer using internal LED light paths to determine the exact position of each number wheel. This technology eliminates electromechanical contacts that could wear out, and provides greater long-term performance.

**Wire Connections:** The HR-E is available with an in-line connector for easy connection and installation to AMR/AMI endpoints. It is also available with a flying lead for a field splice connection or fully prewired to an AMR/AMI endpoint. A terminal screw version of the HR-E is also available. This version features a tamper-resistant cap over the three-wire terminals. The HR-E with terminal screws is designed for indoor installations in protected environments such as residential basements.

## DIMENSIONAL DRAWINGS



## MEASUREMENT RESOLUTION

The minimum electronic resolution of the HR-E is as noted below (8-Dial Reading). To verify the correct resolution for your application, contact Badger Meter Customer Service.

Recordall Disc Series	Size (in.)	8-Dial Resolution (gal)	8-Dial Resolution (ft³)	8-Dial Resolution (m³)
M25/MLP	5/8	0.1	0.01	0.001
M25/MLP	3/4	0.1	0.01	0.001
M35	3/4	0.1	0.01	0.001
M40	1	0.1	0.01	0.001
M55	1	0.1	0.01	0.001
M70	1	0.1	0.01	0.001
M120	1-1/2	1	0.1	0.01
M170	2	1	0.1	0.01

Fire Service Series	8-Dial Resolution (gal)	8-Dial Resolution (ft³)	8-Dial Resolution (m³)
3 in.	1	0.1	0.01
4 in.	1	0.1	0.01
6 in.	10	1	0.1
8 in.	10	1	0.1
10 in.	10	1	0.1

Recordall Turbo Series	Size (in.)	8-Dial Resolution (gal)	8-Dial Resolution (ft³)	8-Dial Resolution (m³)
T160	1-1/2	1	0.1	0.01
T200	2	1	0.1	0.01
T450	3	1	0.1	0.01
T1000	4	1	0.1	0.01
T2000	6	10	1	0.1
T3500	8	10	1	0.1
T5500	10	10	1	0.1
T6200	12	100	10	0.1
T6600	16	100	10	1
T10000	20	100	100	1

Recordall Compound Series	Size (in.)	8-Dial Resolution (gal)	8-Dial Resolution (ft³)	8-Dial Resolution (m³)
High Side T200	2	1	0.1	0.01
Low Side M25	2	0.1	0.01	0.001
High Side T450	3	1	0.1	0.01
Low Side M25	3	0.1	0.01	0.001
High Side T1000	4	1	0.1	0.01
Low Side M35	4	0.1	0.01	0.001
High Side T2000	6	10	1	0.1
Low Side M35	6	0.1	0.01	0.001

Resolution stated as individual high and low readings.

## Making Water Visible®

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# PRODUCT WARRANTY DOCUMENTATION





**Badger Meter**

# Lead-Free Bronze Disc Meters

## PRODUCTS COVERED

This warranty shall apply to all Recordall® Lead-Free Bronze Disc Meters, models 25 through 170, when used to measure potable water, including the registers used with these meters (collectively “Product”) sold on or after January 25, 2019. This warranty is extended only to utilities, municipalities, other commercial users and authorized Badger Meter, Inc. distributors, hereafter referred to as “Customer” and does NOT apply to consumers or any person or entity who is not an original customer of Badger Meter or its authorized distributors.

## MATERIALS AND WORKMANSHIP

Badger Meter warrants Product to be free from defects in materials and workmanship appearing within the following time frames and those listed in the table below:

### Housings

Twenty-five (25) years and six (6) months after shipment from Badger Meter.

### Local Registers Supplied with the Meters Listed Herein

Twenty-five (25) years and six (6) months after shipment from Badger Meter.

	<b>AWWA New Meter Accuracy</b>	<b>AWWA Repaired Meter Accuracy (AWWA M6 Manual)</b>	<b>Badger Meter Extended Low Flow Meter Accuracy</b>
<b>Recordall Meter Model, Size</b>	<i>The meter product will meet or exceed new meter accuracy standards set forth in AWWA Standard C700 for the following periods:</i>	<i>The meter product will meet or exceed repaired meter accuracy standards set forth in AWWA Manual M-6, Chapter 5, Table 5.3 for the following periods:</i>	<i>Badger Meter further warrants the meter product to meet or exceed the following extended low flow accuracies in excess of AWWA standard:</i>
<b>Model 25, 5/8 in. and 5/8 x 3/4 in.</b>	Five (5) years from date of shipment or registration of 750,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 2,500,000 gallons, whichever occurs first, with a 25 gpm safe maximum operating capacity and a 15 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 98.5% at a rate of 1/4 gpm and low flow accuracy of 95.0% at a rate of 1/8 gpm for five (5) years from date of shipment or registration of 675,000 gallons, whichever occurs first.
<b>Model 35, 3/4 in.</b>	Five (5) years from date of shipment or registration of 750,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 2,500,000 gallons, whichever occurs first, with a 35 gpm safe maximum operating capacity and a 25 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 97% at a rate of 3/8 gpm for five (5) years from date of shipment or registration of 675,000 gallons, whichever occurs first.
<b>Model 55, 1 in.</b>	Five (5) years from date of shipment or registration of 1,000,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 3,000,000 gallons, whichever occurs first, with a 55 gpm safe maximum operating capacity and a 40 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 95% at a rate of 1/2 gpm for three (3) years from date of shipment or registration of 575,000 gallons, whichever occurs first.
<b>Model 70, 1 in.</b>	Five (5) years from date of shipment or registration of 1,100,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 3,250,000 gallons, whichever occurs first, with a 70 gpm safe maximum operating capacity and a 50 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 95% at a rate of 3/4 gpm for three (3) years from date of shipment or registration of 1,100,000 gallons, whichever occurs first.
<b>Model 120, 1-1/2 in.</b>	Two (2) years from date of shipment or registration of 1,600,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 5,600,000 gallons, whichever occurs first, with a 120 gpm safe maximum operating capacity and a 80 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 95% at a rate of 1-1/4 gpm for two (2) years from date of shipment or registration of 1,440,000 gallons, whichever occurs first.
<b>Model 170, 2 in.</b>	Two (2) years from date of shipment or registration of 2,100,000 gallons, whichever occurs first.	Fifteen (15) years from date of shipment or registration of 10,400,000 gallons, whichever occurs first, with a 170 gpm safe maximum operating capacity and a 100 gpm maximum rate for continuous operation.	Badger Meter warrants Product low flow accuracy of 95% at a rate of 1-1/2 gpm for two (2) years from date of shipment or registration of 1,890,000 gallons, whichever occurs first.

## PRODUCT RETURNS

Any Product proved to the satisfaction of Badger Meter to have failed the foregoing warranties will, at the option of Badger Meter, be repaired or replaced without charge to the Customer. Any eligible Product repaired or replaced by Badger Meter will retain the original Product's warranty based on the original Product purchase date, at Badger Meter's sole discretion. The Badger Meter obligation hereunder shall be limited to such repair and replacement and shall be conditioned upon Badger Meter receiving written notice of any alleged defect within ten (10) days after its discovery. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Badger Meter is willing and able to replace defective products or issue a credit to purchaser within a reasonable time of proof to Badger Meter that a defect is involved. Product returns must be shipped by the Customer prepaid F.O.B. to the nearest Badger Meter factory or distribution center. The Customer shall be responsible for all direct and indirect costs associated with removing the original Product and reinstalling the repaired or replacement Product.

## LIMITS OF LIABILITY

This warranty shall not apply to Product repaired or altered by parties other than Badger Meter. The foregoing warranty applies only to the extent that the Product is installed, serviced and operated strictly in accordance with AWWA Standard C700 and AWWA M6 Manual, as applicable. The warranty shall not apply and shall be void with respect to Product exposed to conditions other than those detailed in the Badger Meter Product technical and/or operational literature, or which have been exposed to adverse installation conditions, damaged by any water conditions and/or water quality, including but not limited to foreign matter in the water such as dirt, sand, minerals, debris, deposits, biofilms, extreme corrosivity, or other impurities, or which have been subject to passage of high-speed air slugs, vandalism, negligence, accident, acts of God, alteration, improper installation, operation or repair, or other circumstances which are beyond the reasonable control of Badger Meter. With respect to Product not manufactured by Badger Meter, the warranty obligations of Badger Meter shall in all respects conform and be limited to the warranty extended to Badger Meter by the supplier.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES WHATSOEVER, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (except warranties of Title).

Any description of Product, whether in writing or made orally by Badger Meter or its agents, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets, or similar materials used in connection with any Customer's order are for the sole purpose of identifying Product and shall not be construed as an express warranty. Any suggestions by Badger Meter or its agents regarding use, application or suitability of Product shall not be construed as an express warranty unless confirmed to be such in writing by Badger Meter.

## Exclusion of Consequential Damages and Disclaimer of Other Liability

Badger Meter liability with respect to breaches of the foregoing warranty shall be limited as stated therein. Badger Meter liability shall in no event exceed the contract price.

BADGER METER SHALL NOT BE SUBJECT TO AND DISCLAIMS:

- (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY
- (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY BADGER METER, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATING THERETO, AND
- (3) ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES WHATSOEVER.

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Legacy Document Number: RD-W-4-AWWA-EN



**Badger Meter**

## Recordall® Turbo Series Meters

### PRODUCTS COVERED

This warranty shall apply to all Recordall® Turbo Series Meters, sizes 1-1/2 through 12 inch, Turbo Series head assemblies and the local registers used with these meters (collectively "Product") sold on or after October 13, 2022. This warranty is extended only to utilities, municipalities, other commercial users and authorized Badger Meter, Inc. distributors, hereafter referred to as "Customer" and does NOT apply to consumers or any person or entity who is not an original customer of Badger Meter or its authorized distributors.

### MATERIALS AND WORKMANSHIP

Badger Meter warrants Product to be free from defects in materials and workmanship appearing within the following time frames:

#### **Bronze Housing**

One (1) year and six (6) months after shipment from Badger Meter.

#### **Local Registers Supplied with the Meters Listed Herein**

Five (5) years and six (6) months after shipment from Badger Meter.

### METER ACCURACY

The meter Product will meet or exceed accuracy standards of AWWA Standard C701 for one (1) year and six (6) months after shipment from Badger Meter.

### PRODUCT RETURNS

Any Product proved to the satisfaction of Badger Meter to have failed the foregoing warranties will, at the option of Badger Meter, be repaired or replaced without charge to the Customer. Any eligible Product repaired or replaced by Badger Meter will retain the original Product's warranty based on the original Product purchase date, at Badger Meter's sole discretion. The Badger Meter obligation hereunder shall be limited to such repair and replacement and shall be conditioned upon Badger Meter receiving written notice of any alleged defect within ten (10) days after its discovery. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Badger Meter is willing and able to replace defective products or issue a credit to purchaser within a reasonable time of proof to Badger Meter that a defect is involved. Product returns must be shipped by the Customer prepaid F.O.B. to the nearest Badger Meter factory or distribution center. The Customer shall be responsible for all direct and indirect costs associated with removing the original Product and reinstalling the repaired or replacement Product.

### LIMITS OF LIABILITY

This warranty shall not apply to Product repaired or altered by parties other than Badger Meter. The foregoing warranty applies only to the extent that the Product is installed, serviced and operated strictly in accordance with AWWA Standard C701 and AWWA M6 Manual, as applicable. The warranty shall not apply and shall be void with respect to Product exposed to conditions other than those detailed in the Badger Meter Product technical and/or operational literature, or which have been exposed to adverse installation conditions, damaged by any water conditions and/or water quality, including but not limited to foreign matter in the water such as dirt, sand, minerals, debris, deposits, biofilms, extreme corrosivity, or other impurities, or which have been subject to passage of high-speed air slugs, vandalism, negligence, accident, acts of God, alteration, improper installation, operation or repair, or other circumstances which are beyond the reasonable control of Badger Meter. With respect to Product not manufactured by Badger Meter, the warranty obligations of Badger Meter shall in all respects conform and be limited to the warranty extended to Badger Meter by the supplier.

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Any description of Product, whether in writing or made orally by Badger Meter or its agents, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets, or similar materials used in connection with any Customer's order are for the sole purpose of identifying Product and shall not be construed as an express warranty. Any suggestions by Badger Meter or its agents regarding use, application or suitability of Product shall not be construed as an express warranty unless confirmed to be such in writing by Badger Meter.

### Exclusion of Consequential Damages and Disclaimer of Other Liability

Badger Meter liability with respect to breaches of the foregoing warranty shall be limited as stated therein. Badger Meter liability shall in no event exceed the contract price. BADGER METER SHALL NOT BE SUBJECT TO AND DISCLAIMS: (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY BADGER METER, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATING THERETO, AND (3) ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES WHATSOEVER.

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**Badger Meter**

**HR-E®**

**High Resolution Encoder**

## PRODUCTS COVERED

This Badger Meter warranty shall apply to the High Resolution Encoder (HR-E®) ("Product"), sold on or after June 18, 2021. This warranty is not transferable and is extended only to utilities, municipalities, other commercial users and authorized distributors, hereafter referred to as "Customer" and does NOT apply to consumers or any person or entity who is not an original customer of Badger Meter or its authorized distributors.

## MATERIALS AND WORKMANSHIP

Badger Meter warrants the Product to be free from defects in materials and workmanship appearing within twenty (20) years and six (6) months after shipment from Badger Meter.

This warranty is prorated as follows: For the first ten (10) years of the warranty the Product is replaced at no charge, and the warranty is prorated at price discounts during the last ten (10) years of the warranty.

Specifically, Badger Meter will repair or replace, at its discretion, a non-performing Product at no cost during the first ten (10) years of the warranty and at prorated price discounts during the last ten (10) years of the warranty. Badger Meter will apply these prorated price discounts to the Product list prices in effect at the time of Product return and according to the following prorated price discount schedule:

- Years 11 through 12—75% discount
- Years 13 through 15—50% discount
- Year 16—40% discount
- Year 17—30% discount
- Year 18—20% discount
- Years 19 through 20—10% discount

Replacement Products are warranted for and under the balance of the original applicable Product warranty.

## PRODUCT RETURNS

Any Product proved to the satisfaction of Badger Meter to have failed the foregoing warranties will, at the option of Badger Meter, be repaired or replaced without charge to the Customer. The Badger Meter obligation hereunder shall be limited to such repair and replacement and shall be conditioned upon Badger Meter receiving written notice of any alleged defect within ten (10) days after its discovery. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Badger Meter is willing and able to replace defective products or issue a credit to purchaser within a reasonable time of proof to Badger Meter that a defect is involved. Product returns must be shipped by the Customer prepaid F.O.B. to the nearest Badger Meter factory or

distribution center. The Customer shall be responsible for all direct and indirect costs associated with removing the original Product and reinstalling the repaired or replacement Product.

## LIMITS OF LIABILITY

This warranty shall not apply to Product repaired or altered by parties other than Badger Meter. The foregoing warranty applies only to the extent that the Product is installed, serviced and operated strictly in accordance with Badger Meter instructions. The warranty shall not apply and shall be void with respect to Product exposed to conditions other than those detailed in the Badger Meter Product technical literature or which have been subject to vandalism, negligence, accident, acts of God, alteration, improper installation, operation or repair, or other circumstances which are beyond the reasonable control of Badger Meter. With respect to Product not manufactured by Badger Meter, the warranty obligations of Badger Meter shall in all respects conform and be limited to the warranty extended to Badger Meter by the supplier.

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Jefferson Parish Purchasing Department, Purchase of Meters for Jefferson Parish Department Public Works, Eastbank, July 7, 2023

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# Submission DRAFT2 23-0704\_Jefferson\_Parish \_Spot\_Bid\_-\_Disc\_and\_Turbo

Final Audit Report

2023-07-07

Created:	2023-07-07
By:	Nelle Speerschneider (NSpeerschneider@badgermeter.com)
Status:	Signed
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## "Submission DRAFT2 23-0704\_Jefferson\_Parish\_Spot\_Bid\_-\_Disc\_and\_Turbo" History

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